

Challenges in Data-based Decision-making: Voices from Principals

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The Case for the Principal as Shaper of Data-based Decision-making

The past twenty-four months of educational leadership literature reveals a steady stream of prescriptions for how a principal should shape the focus of a school: by raising student achievement through shared leadership, data-based decision-making, and unwavering attention to the employment of best practice in curriculum, instruction, and assessment (Marzano, Waters, and McNulty 2005). If we read between the lines, the importance of systematic collection, analysis, and interpretation of multiple data sources and types becomes much clearer. Principals in the information age need to be information driven, committed to shared leadership and relentless about continuous improvement. They must reshape the processes, norms, and behaviors of teaching and learning (Glickman, Gordon, and Ross-Gordon 2004) around aggregating and interpreting shared information, i.e., data (Picciano 2006).

The theoretical and the research literature are both increasingly consistent and clear in redefining the school principal's archetypal building-management role (Reeves 2004). Implementing the new definitions of school-leadership preparation and practice standards will help create schools that continuously learn and adapt to student needs and improve student outcomes (Engler 2004). The cornerstones of those standards—assumptions of moral purpose, transformational processes, inclusion and diversity, and a culture of safety and success for all students—and the roles they shape for school leaders involve creating the conditions for continuous learning and change (Fullan 2001); thus, each bears close monitoring through multiple information or data sources.

Ultimately, today's school principals are charged with two challenges: 1) breaking through entrenched, loosely coupled systems (Cusick

1992) characterized by work isolation, uncertain technologies, and top-down decisions; and 2) forging new dynamic and flexible systems that intensively engage new precision technologies, data-informed processes, and collaborative decisions (Lambert 2003). Many new principals assume responsibility for schools already in various stages of federally mandated sanctions caused by achievement lags and gaps. Those principals and the schools they lead have no time for slow, incremental change. Moreover, they cannot afford to continue supporting the same teaching and learning processes. Their schools need new high-yield, strategic decisions based on deep understanding of the school context, student needs, and student performance profile to help ever-more diverse and more socioeconomically challenged student populations. A critical pathway to such in-depth understanding is data collection, analysis, and interpretation (Schmoker 1996).

Challenges in Data-based Decision-making

Effective shared decision-making thus requires knowledge, skills, and dispositions conducive to systematic gathering, analysis, and interpretation of relevant data. District leaders must understand the direction and training needed to support such leadership. One good way of learning what principals need is to go to ground level with them as they learn about and attempt to employ data-based decision-making strategies in their schools. The Michigan State Action for Educational Leadership Project II (SAELP II)



is doing just that, as part of a multi-state initiative funded by the Wallace Foundation with a focus on connecting educational leadership at the state and district levels. By working with sixteen principals from four urban school districts over a three-year period, the project has afforded its research team an in-depth look at the actual experiences of principals attempting to reshape the decision-making processes of their schools.

After a year of working with these sixteen principals, the Michigan SAELP II researchers are beginning to isolate common themes that relate to the conditions principals face in their school districts as they implement data-based decision-making. Through one-on-one interviews, the researchers collected and analyzed principals' descriptions and depictions of their status at the onset of the project. This analysis yielded four major themes: (a) teacher and principal knowledge; (b) teacher and student issues; (c) data overflow and other barriers; and (d) time to receive and analyze data.

Teacher and Principal Knowledge

Principals expressed concern about their own lack of training and understanding of how to use data. Several admitted having fears about mathematics and data analysis. They expressed concern that their university administrator-preparation programs failed to prepare them to analyze data. Principals reported little common understanding with teachers and other district administrators regarding what data are important and what the data mean. One summarized the frustration with using data:

I'm not sure how data driven I am sometimes. You know, I am looking at the data, making decisions based on the data, but sometimes I do not know if we are looking at that correctly.

Principals reported that training is critical to enhancing teachers' understanding of data. One principal expressed concern about the lack of professional development before the start of school and prior to the beginning of the second semester and also stated the need for professional development geared to individual schools instead of districts.

Another expressed frustration about the lack of teacher and administrator knowledge in data-based decision-making:

Our teachers need to be trained. Our principals need to be trained. I know I'm not telling you anything you don't already know. . . . [I]n our principal meetings . . . we are talking about data and adjusting instruction. . . . I look around and I know there are people in the room who buy into it [data analysis], but they are not quite sure how to do it.

The principal continued: “We graduate from college and we don’t know everything just because our title says principal, assistant principal, or whatever.” The overall message is that principals and teachers must involve themselves in sustained, job-embedded professional development geared to understanding and using data to make effective decisions.

Teacher and Student Issues

Principals identified several issues that pose challenges in using data under the broad categories of teacher and student perceptions and attitudes: e.g., “Some students do not take testing seriously,” and “[The] use of data is not necessarily part of teacher training, and one of the roadblocks is the acceptance of the time that we used to collect data—is [this] time well used?” They noted teacher frustration with how many students get the same results after taking tests multiple times. One principal discussed the need for accurate analysis of multiple tests to provide information that could be used for student improvement. Various tests generate different information, but understanding how to disaggregate and effectively use various test results is a challenge.

Coupled with the perception of being overburdened with testing is the problem of teacher and student attitudes regarding testing’s importance. One principal captured teacher attitudes in the following statement.

They [teachers] think that we are just testing students to death. Everybody is just exhausted from testing. You really don’t have valid data because the kids just go through and they begin to mark whatever.

That principal recognized that teachers use student attitudes as an excuse, then project their own attitudes on the students—and thus further exacerbate the problem of seeing value in and utilizing test results effectively. Additionally, principals cited the lack of coordination between tests. For instance, a district might administer several tests (Iowa Test of Basic Skills, Metropolitan Achievement Test, state-mandated tests, and other screening, diagnostic, and criterion tests) with no mechanism to organize, plot, and analyze the data from the various tests so that teachers can use the information to impact student achievement. There is thus no easy way for teachers and students to know what the test data mean.

Data Overflow and Other Barriers

Principals identified several barriers to data-based decision-making, including excessive raw data, inadequate technology to use data, coordination, and data warehousing. They felt that the amount of data was overwhelming—“[J]ust too much data, and sometimes it is really hard to

choose which data is reliable for what your intended purposes are.” One principal recommended streamlining the data. A second stated that there were no connections between the various assessment instruments used in their buildings, and that this made it difficult to analyze and use the data with teachers. A third principal suggested that the amount of data collected was a “big hindrance” to his faculty and staff: “With all of the data collected, what pieces do you take out and use?”

Disaggregating to examine subgroup performance and breaking down data to analyze individual student performance were also identified as challenges. Putting the data together for a complete picture of students is important but difficult. One frustrated principal who wants “relevant” data complained, “We have so many pieces—I know that each piece has its own job, but it’s overwhelming . . . to get it all and make sense.” The principal, suggesting that the data often produced mixed messages for faculty, emphasized the need for common meanings and processes when using data to improve student achievement.

Principals also identified data warehousing and technology as barriers to data-based decision-making. One principal recounted difficulty in preparing data for teachers due to computer and printer malfunctions. The technology can lock up because of the amount of data. Related issues were (1) accessing data in a usable form; (2) disaggregating data to a point where it has meaning for teachers; and (3) receiving data in a time frame that makes it truly useful for intervening with student learning.

Time to Receive and Analyze Data

Principals identified time as a major barrier to providing leadership for utilizing data. Teachers do not have time to analyze data or to collaborate with one another regarding the meaning and use of data. Lamenting the lack of time for adequately monitoring teacher progress, as well as their own, in using data, principals contend that lack of time also influences teacher morale. Teachers feel stressed and unable to reach their goals. The following responses aptly represent such sentiments:

There is not sufficient time for teachers to meet and analyze the data. Teachers are busy and often do not want to do more than what they are contractually required to do.

There is not enough time for collaboration. When teachers get the data, they do not have the time to “mull” over it, talk about strategies, and think about how they can teach differently and share what they have done.

Following testing, getting the data back in timely fashion was, again, identified as a challenge. Educators forced to write their school-

improvement plans based on incomplete data, up to a year old, are always a year behind in their ability to truly use data to adapt teaching and learning processes.

Implications for District Support and Response

Based on the results of the principal interviews, major issues surrounding principals' experience with data-based decision-making obviously exist. Principals see little progress in connecting data use with classroom instructional decisions. Many principals, uncomfortable with data collection, analysis, and interpretation themselves, suggest that their teachers possess even less understanding of and appreciation for using data in decisions about classroom and school processes. They conclude that significant, targeted professional development on data collection and use is needed for both teachers and administrators. In addition, principals clearly need help in developing data-based strategies for monitoring teacher and student progress and fostering changes in attitudes, assumptions, and culture.

Principals recognize that using data effectively in today's schools suggests completely rethinking teachers' and students' roles in learning and decision-making. They perceive, however, that both students and teachers suffer a low sense of efficacy regarding assessment and shaping decisions with data. Principals agree that teachers must become problem solvers, but they also need the skills and time to do so. To help teachers collect and analyze data for every student, adapt instruction accordingly, and chart continuous improvement progress, their workday and responsibilities need restructuring. To match shared leadership with shared responsibility, any restructuring of the current teacher role must be accompanied by greater teacher efficacy and accountability. The issues run much deeper than merely collecting and analyzing data.

Finally, data overflow and disconnect must be addressed through district data collection, warehousing, and reporting systems. Most principals interviewed mentioned that problem and their frustration with the absence of reliable means to access, manipulate, and interpret data efficiently and promptly. Although fully acknowledging the need to utilize data from multiple sources systematically, they also emphasize that this is the area in which they need the most help from their districts; they simply lack the tools, expertise, and time to function at the current "every man for himself" level in accessing and utilizing data for building-level decisions. They need data organized in a way that tells the story of each student's achievement and the achievement profile of the entire school over multiple years. They also need coordinated district leadership focus and facilitation to utilize data-collection and analysis tools effectively in their school decision-making processes.

Substantive changes require addressing the conditions the data gathered in this first year of Michigan SAELP II project reveal. Although the conditions must change at the building level, intentional, systemic support at the district and state levels is necessary or principals will fight an ever-steeper uphill battle. Discussions with principals revealed animosity, cynicism, mistrust, and a general lack of confidence at both the district and state policy levels. As Salpeter (2004) observed, school improvement is influenced by many factors; consequently, systemic change in both the conditions for and the support of principals' new role as instructional leader, change agent, and data-based decision-maker will be critical for success.

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